



# **C.T.M. Power Chair**

## **Multi Adj. Fix Frame**

HS-6500 User's Manual



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## INTRODUCTION

C.T.M. is a professional and experienced manufacturer, that specializes in production of Mobility Scooters and Power Chairs that are developed by a team of specialists with outstanding design skills and competence.

The HS-6500 is an excellent chair that includes ergonomic features. It combines safety and comfort and gives users extraordinary experience and convenience in operation. With its thoughtful and people-friendly controller system, the user can easily achieve 360 degree turns with their finger tips.

This product is powered by the sealed, no water added, high performance lead-acid battery, which ensures environmental safety and brings convenience in disassembly and re-assembly.

### Preface :

This User's Manual contains important information and know-how on operating and maintaining the C.T.M. product. Please read it carefully before practicing with your new chair, so that you comprehend the technical advantages of HS-6500

All assembly and maintenance should be performed after you fully understand the content of this manual to avoid any hazard or damage to the Power Chair or human body.

Overhaul and adjustments must be undertaken by skillful maintenance staff following the instructions provided in this booklet.

Any improper usage might lead to danger to the user or the chair. C.T.M. is/will not be responsible for any after-effect resulting from failure to comply with this manual.



**After unpacking, please inspect carefully for any defect or missing part.**

### Limitation In Transporting And Travelling :

1. When transporting HS-6500, please ensure the product is not scratched or damaged.
2. If a long trip is planned, please fully charge the batteries before use to prevent low voltage during the trip.

All the contents in this manual including pictures, photo illustrations and text are all patented and registered. (If any details in the manual are going to be changed or added, C.T.M. will not notify previous owners of the modification.)

**We wish you an enjoyable riding experience.  
If you have any questions, you can contact:**

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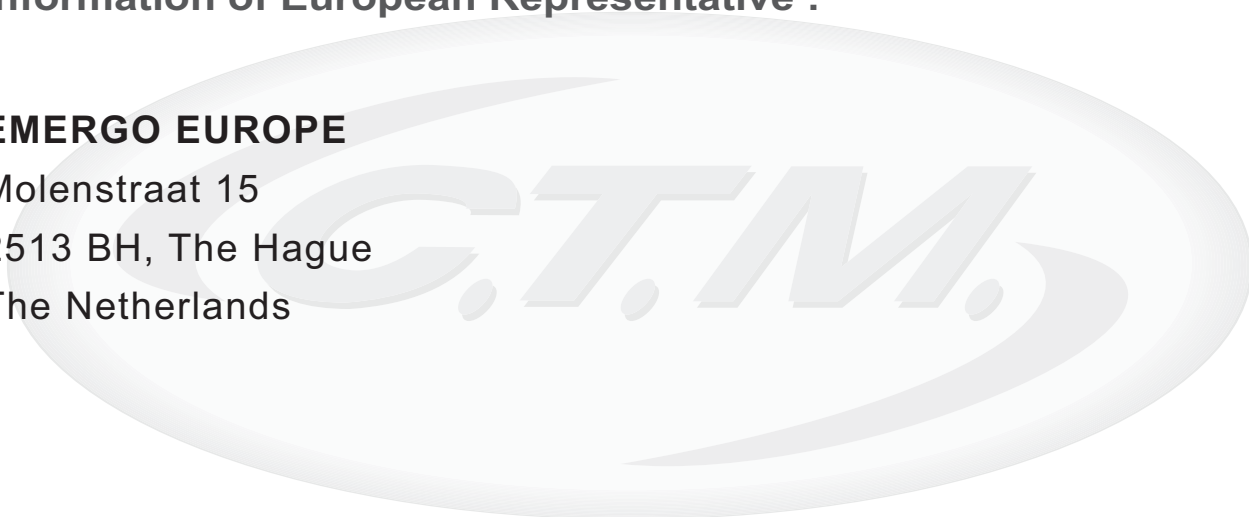
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## ELECTROMAGNETIC INTERFERENCE AND WARNINGS

**CAUTION:** It is very important that you read this information regarding the possible effects of Electromagnetic Interference on your power chair.

Powered wheelchairs and motorized scooters may be susceptible to electromagnetic interference (EMI), which is interfering electromagnetic energy (EM) emitted from sources such as radio stations, TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones. The interference (from radio wave sources) can cause the power chair to release its brakes, move by itself, or move in unintended directions. It can also permanently damage the power chair control system. The intensity of the interfering EM energy can be measured in volts per meter (V/m). Each power chair can resist EMI up to a certain intensity. This is called its "immunity level." The higher the immunity level, the greater the protection will be. At this time, current technology is capable of achieving at least a 20 V/m immunity level, which would provide useful protection from the more common sources of radiated EMI. The immunity level of this product is 20 V/m.

There are a number of sources of relatively intense electromagnetic fields in the everyday environment. Some of these sources are obvious and easy to avoid. Others are not apparent and exposure is unavoidable. However, we believe that by following the warnings listed below, your risk to EMI will be minimized.

### Electromagnetic Interference and Warnings :

The sources of radiated EMI can be broadly classified into three types:

1. Hand-held portable transceivers (transmitters-receivers) with the antenna mounted directly on the transmitting unit. Examples include: citizens band (CB) radios, "walkie talkie," security, fire, and police transceivers, cellular telephones, and other personal communication devices.



**Some cellular telephones and similar devices transmit signals while they are ON, even when not being used.**

2. Medium-range mobile transceivers, such as those used in police cars, fire trucks, ambulances, and taxis. These usually have the antenna mounted on the outside of the vehicle.

3. Long-range transmitters and transceivers such as commercial broadcast transmitters (radio and TV broadcast antenna towers) and amateur (HAM) radios.



**Other types of hand-held devices, such as cordless phones, laptop computers, AM/FM radios, TV sets, CD players, and cassette players, and small appliances, such as electric shavers and hair dryers, so far as we know, are not likely to cause EMI problems to your power chair.**

#### **Power Chair Electromagnetic Interference :**

Because EM energy rapidly becomes more intense as one moves closer to the transmitting antenna (source), the EM fields from hand-held radio wave sources (transceivers) are of special concern. It is possible to unintentionally bring high levels of EM energy very close to the power chair control system while using these devices. This can affect power chair movement and braking. Therefore, the warnings listed below are recommended to prevent possible interference with the control system of the power chair.

#### **Electromagnetic Interference and Warnings :**

##### **Warnings**

Electromagnetic interference (EMI) from sources such as radio and TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones can affect the power chair. Following the warnings listed below should reduce the chance of unintended brake release or power chair movement, which could result in serious injury.

1. Do not operate hand-held transceivers (transmitters-receivers), such as citizens band (CB) radios, or turn ON personal communication devices, such as cellular phones, while the power chair is turned ON;
2. Be aware of nearby transmitters, such as radio or TV stations, and try to avoid coming close to them;
3. If unintended movement or brake release occurs, turn the power chair OFF as soon as it is safe;
4. Be aware that adding accessories or components, or modifying the power chair, may make it more susceptible to EMI; and
5. Report all incidents of unintended movement or brake release to the distributor listed on the inside front cover of this manual. Note whether there is a source of EMI nearby.

##### **Important Information**

1. 20 volts per meter V/m is a generally achievable and useful immunity level against EMI (as of May 1994). The higher the level, the greater the protection.
2. The immunity level of this product is 20 V/m.

## SAFETY INSTRUCTIONS

Safety is the main consideration when practicing with your chair. It is required that you read and comprehend all the operating and safety instructions discussed in this manual. And ensure your chair is correctly fitted and adjusted by your dealer or the prescribing healthcare professional.

Make sure to engage the wheel locks before entering or leaving the chair. The wheel locks are designed to prevent movement of the chair. It is preferable to ensure the front castors are in the forward position before transferring in to or out of the chair. With the castors in the forward position the wheel base of the chair is increased and therefore, offers more stability.

DO NOT move forward in the seat while leaning forward out of the chair. If an object is to be picked up from the floor, drive past it, then reverse so the front castors are in the forward position. This gives the chair its greatest stability.

To maintain lateral stability do not reach further than the length of your arm. DO NOT lean out of the chair as this could cause instability.

When transferring, DO NOT stand on the leg rests. Depending on the style of leg rests either swing them away or fold them up before transferring.

When approaching a ramp, be sure of your own ability and your limitations in terms of strength and endurance.

**Before attempting a ramp the following basic safety rules should be considered :**

1. Surface of the ramp: Is it too slippery?
2. Degree of incline: Is it too steep to attempt alone?
3. Length of ramp: Is it too long for your endurance?
4. Obstacles: Are there any obstacles on the ramp that would necessitate assistance?

**Be very careful when going up or down steep inclines**

If it becomes necessary to stop when going up an incline, special care must be taken to avoid abrupt or sudden forward movement. During continuous forward movements, the chair is capable of falling backwards.

Always keep the chair under control when going down a ramp or incline. Speed should be controlled at all times.

The user in the power chair and a curb is encountered, caution should be taken to prevent the user being thrown forward:

Do not try to climb a curb by driving up it. Have a helper move the chair for you following the instructions below.

1. With both motors disengaged, go down the curb, rear wheels first; making sure that the user is square to the curb so that the rear wheels go down together.
2. To go up a curb forward, verify both front wheels are up together. This must be accomplished with the motors disengaged.

Also try to avoid going up multiple steps and using escalators. Use the elevator instead.



**Please be aware that any adjustments on the power chair may affect the handling and performance.**



## IDENTIFICATION OF PARTS

Before attempting to drive this power chair on your own, it is important that you familiarize yourself with the controls and how they operate.

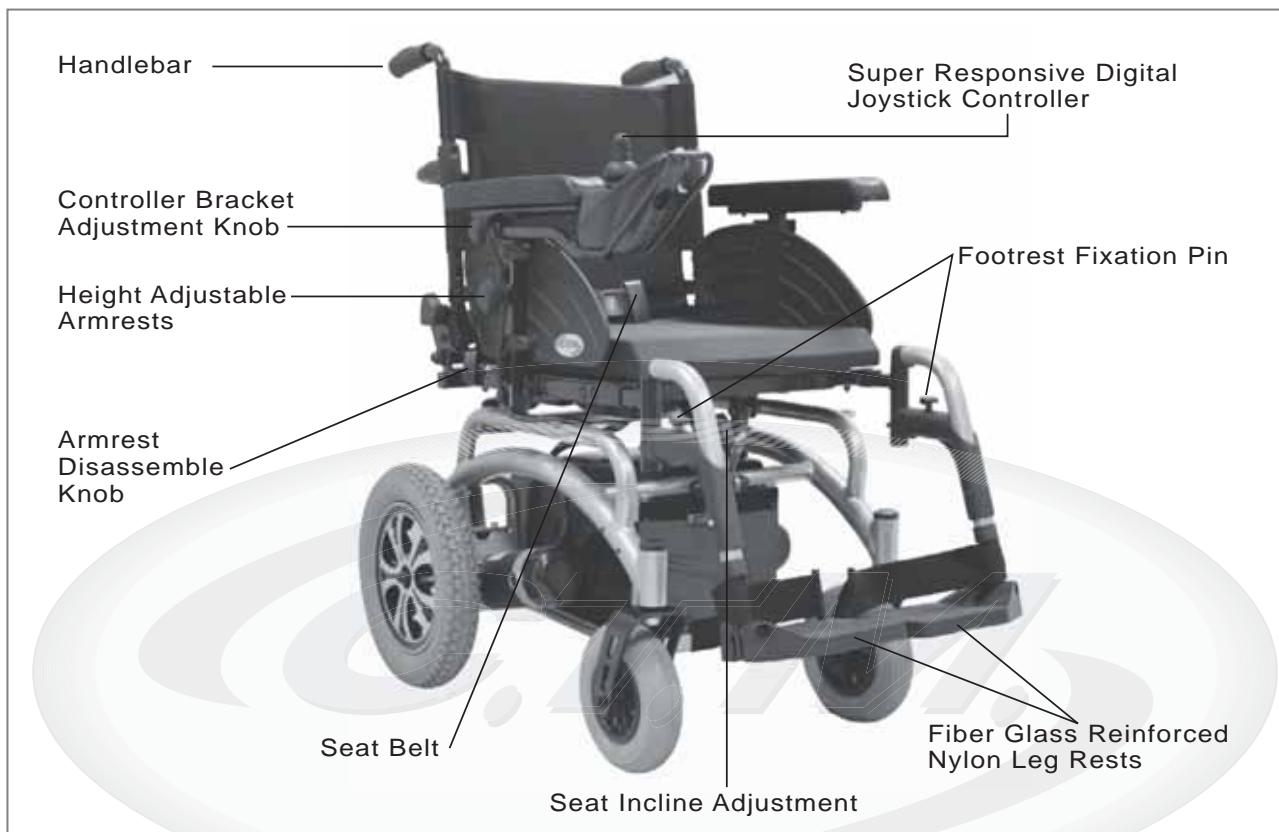


Figure 1 - HS-6500 Power Chair Front View

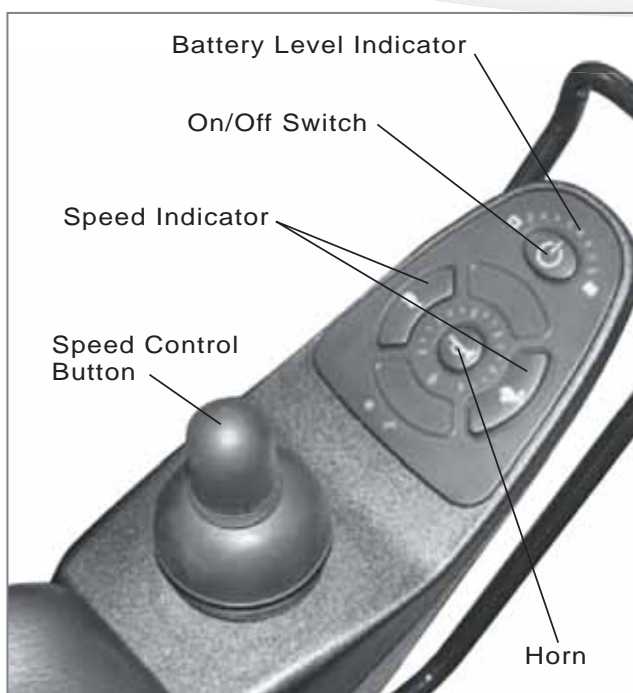


Figure 2 - HS-6500 Joystick Top View

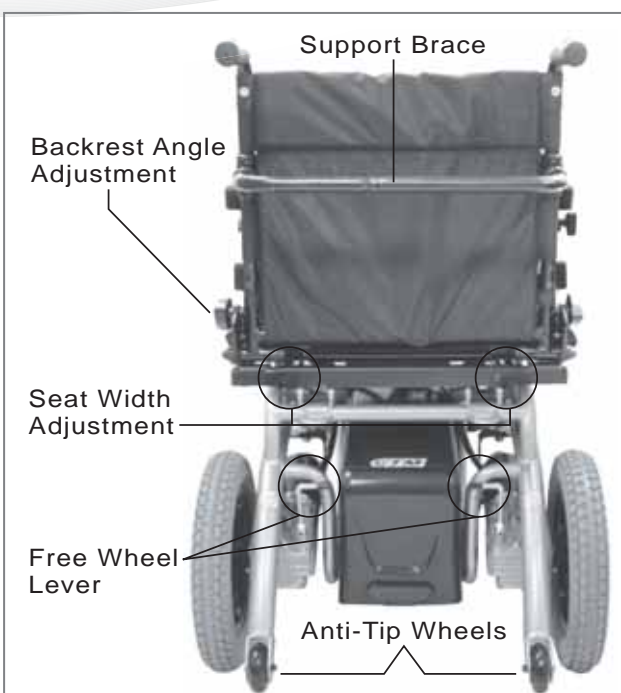


Figure 3 - HS-6500 Power Chair Rear View



## OPERATION

### Controller

1. By press On/Off Switch (A), Battery Level Indicator (B) will light up.

2. Battery Level Indicator (B) indicates power capacity.

3. Speed Control Button (C), (D):

Accelerate speed by pressing button (C)

Decelerate speed by pressing button (D).

4. Horn (E):

Press it when necessary.

5. Directional movement is attained by controlling the joystick (F)

Forwards : Move power chair forwards.

Backwards : Move power chair backwards.

Left : Move power chair left

Right : Move power chair right

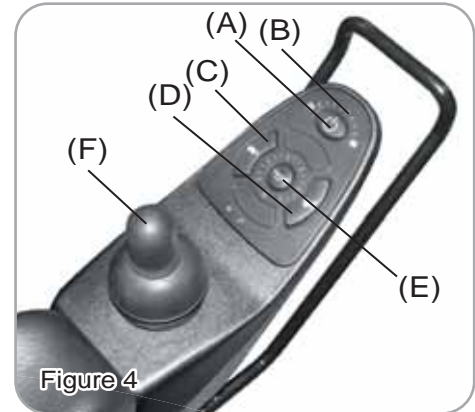


Figure 4



Figure 5

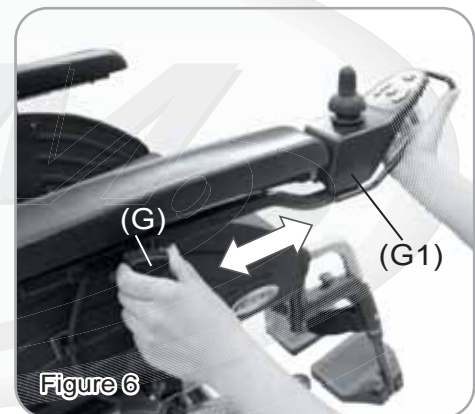


Figure 6

### Controller Position Adjustment

By release Controller Bracket Adjustment Knob to adjust controller (G1) to a required position.



**To prevent any damages, be aware of the wire's length when adjusting.**

### Lighting System-Optional Accessory

1. Button (a): Activate lighting system.

2. Button (b): Activate warning light

3. Button (c): Right Turn Signal

4. Button (d): Left Turn Signal

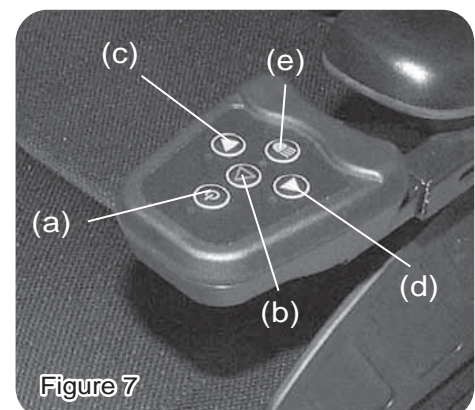


Figure 7

**Armrest Height Adjustment**

- 1.Release Knob (I), adjust armrest height to the required hole's position;
- 2.Aim for the hole's position to tighten Knob (I).

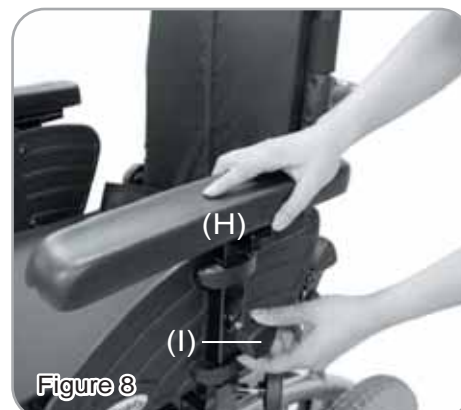


Figure 8

**Armrest's Width Adjustment**

- 1.Release both side's width fixation screws (J).
- 2.Adjust to comfortable width.
- 3.Tighten both side's width fixation screws (J).



Figure 9

To prevent inappropriate attachment, 3 functions adjustment reference as below

Comparison	Hole Position when Seat Depth at 16"	Hole Position when Seat Depth at 17"	Hole Position when Seat Depth at 18"
Seat Depth Adjustment	1st & 2nd (16")	2nd & 3rd (17")	3rd & 4th hole (18")
Seat Incline Adjustment	Standard 1st hole	Standard 2nd hole Forbidden 1st hole	Standard 3rd hole Forbidden 1st ,2nd hole
Footrest Adjustment	Standard 2nd & 3rd hole Forbidden 1st & 2nd hole	Standard 1st & 2nd hole	Standard 1st & 2nd hole

**Seat Depth Adjustment**

- 1.Take off 4pcs of both side's depth fixation screws (K) underneath the seat.
- 2.Adjust to required depth hole's position.
- 3.Aim 4 screws at hole's position to tighten.

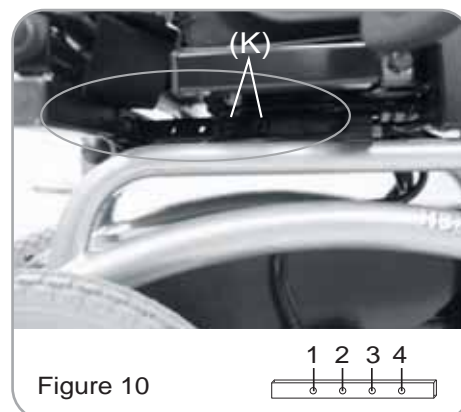


Figure 10

**Seat Incline Adjustment**

1. Release knob (L).
2. Lift seat up to adjust to required hole's position, then tighten with knob (L).

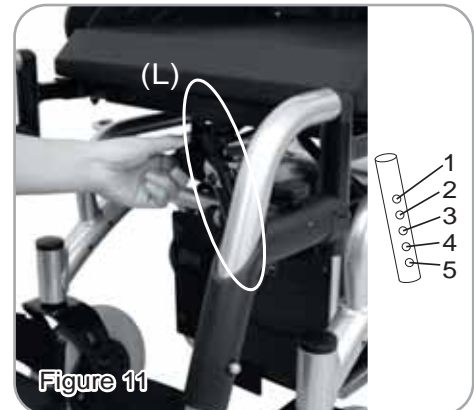


Figure 11



**Knob (L) must be tightened properly to prevent any accident.  
For safety concern, do not driving when seat is in incline condition.**

**Footrest Adjustment**

1. Take off two Footrest Fixation Screws (M)
2. Adjust to required hole's position, aim at hole's position and tighten screws.

Careful not to interfere with front wheel when adjusting.

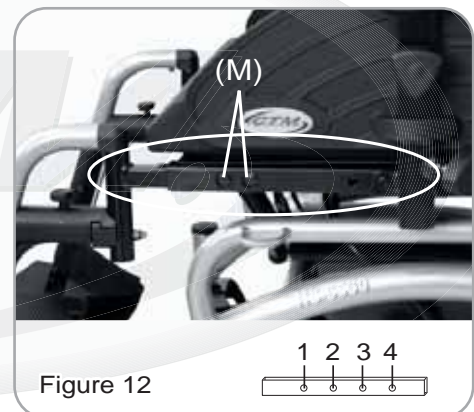


Figure 12

**Seat Width Adjustment**

1. Take off seat pad (N1)
2. Take off 4pcs of width adjustment screw (N) at front and rear of seat.
3. Adjust side's bracket (O1) (O2) to required width hole's position.
4. Aim 4pcs of screw at hole's position to tighten.

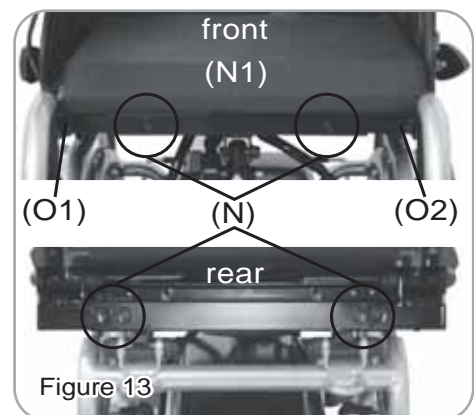


Figure 13



**For ease adjustment, apply equal force on both sides.**



**Footrests Height Adjustment**

1. Take off both side's height fixation screws (P).
2. Adjust to required position.
3. Aim for the required hole's position to tighten height fixation screw.

Careful not to interfere with front wheel when adjusting

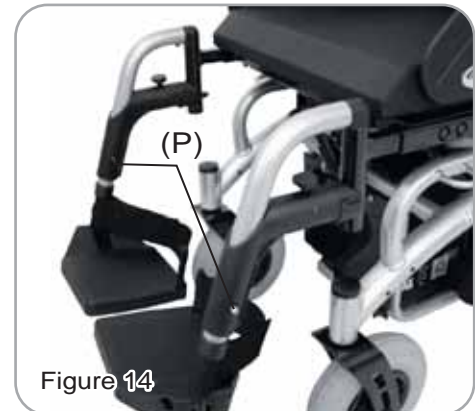


Figure 14

**Seat Belt Usage**

1. Prior driving fasten the seat belt as the picture illustrates (Q) (Q1).
2. Seat Belt can be unfastened by pressing down the red button (Q2).

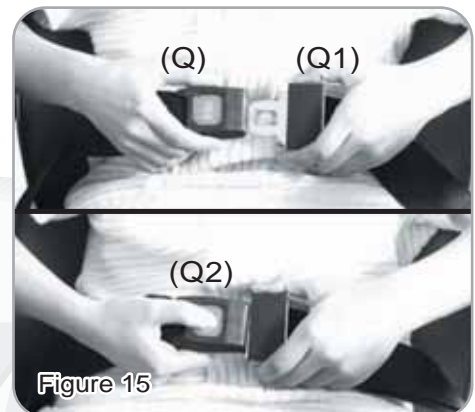


Figure 15

**Freewheel Levers**

1. For your convenience, C.T.M. HS-6500 is equipped with two freewheel levers. These levers allow you to disengage the drive motors and maneuver the chair manually when encountered malfunction or stop.
2. In traveling, set the two metallic levers (R) to the Drive position.



**DO NOT use your chair while the drive are disengaged unless you are in the presence of an attendant! DO NOT disengage the drive motors when your chair is on an incline. The chair could roll down on its own, causing injury!**

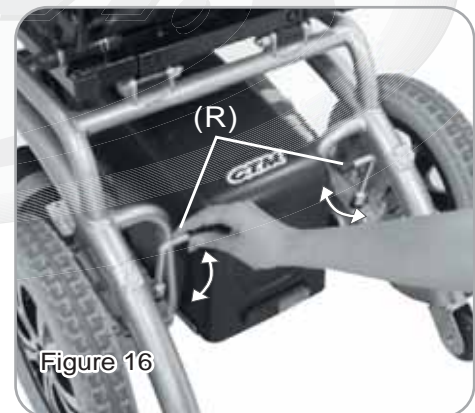


Figure 16

**Backrest Height Adjustment**

1. Release vel-cro (T1)
2. Loosen and taken off side's screw (S) from backrest (T)
3. Adjust backrest (T) to required height position.
4. Aim for hole's position then tighten with side's screw, afterwards attach backrest with vel-cro.

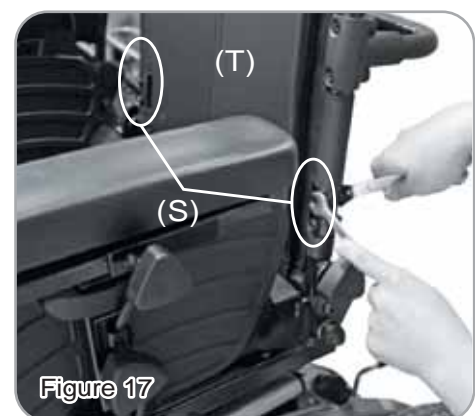
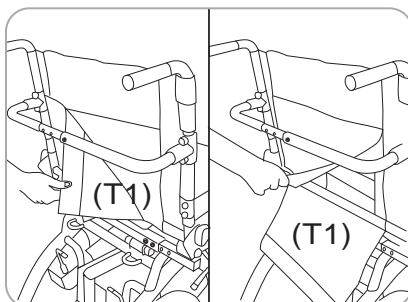


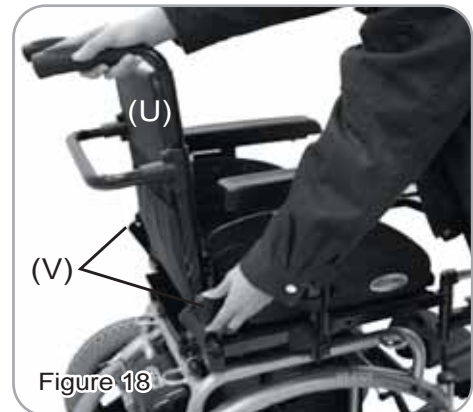
Figure 17



**For ease adjustment, apply equal force on both sides.**

**Backrest Angle Adjustment**

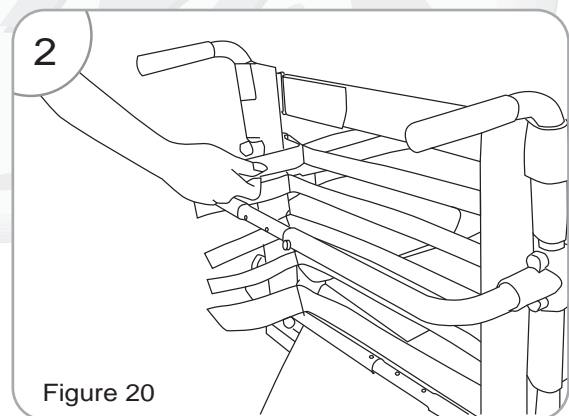
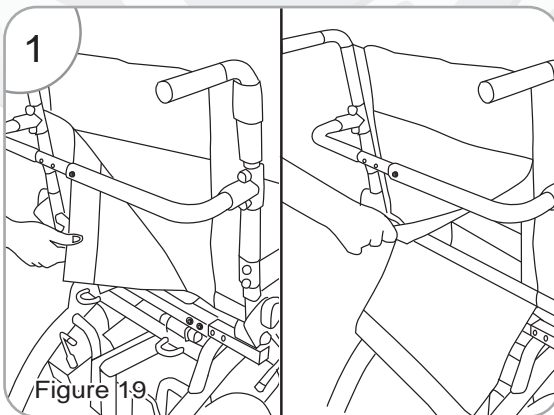
1. Release backrest's vel-cro (U1)
2. Release side's screw (P) from backrest (U).
3. Adjust backrest (U) to required position.
4. Aim two knobs (V) at hole's position, then tighten.



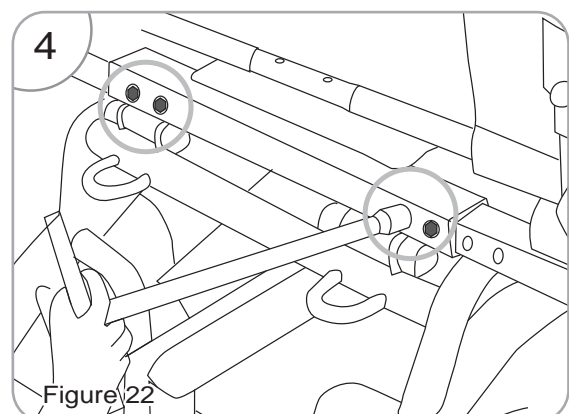
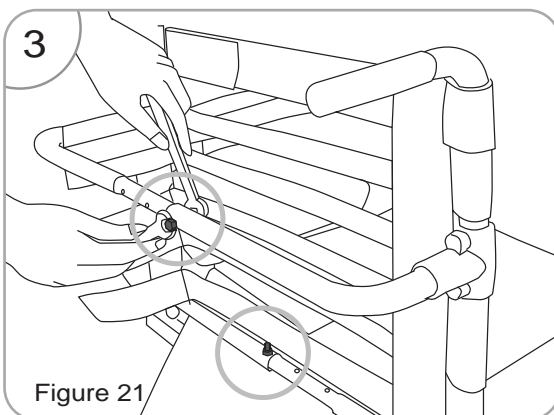
**For safety concern, do not driving when seat is in incline condition**

**Backrest's Width Adjustment**

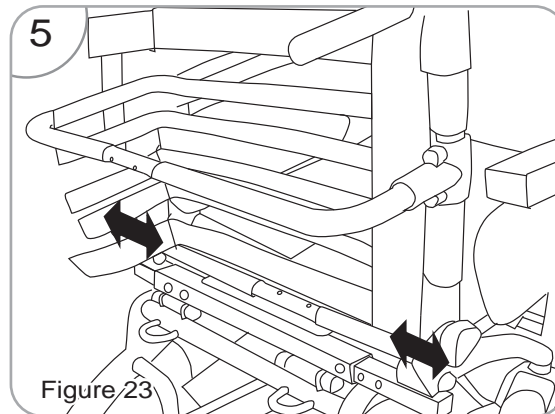
1. Take off backrest pad as illustration by release it's vel-cro. (See Fig. 19).
2. Release all backrest's vel-cro straps (See Fig. 20).



3. Release and take off two screws from support brace and lower bracket. (See Fig. 21).
4. Release both side's 4 screws from backrest's left&right fixation bracket (See Fig. 22).

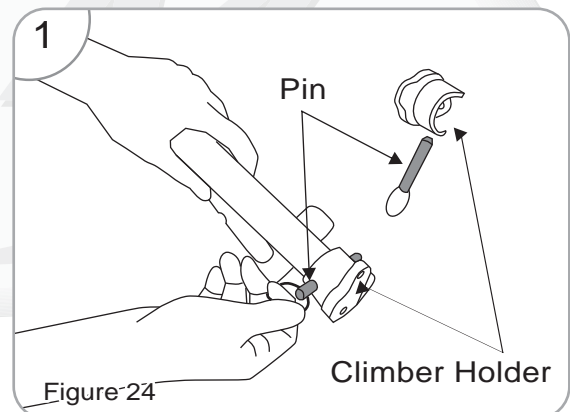
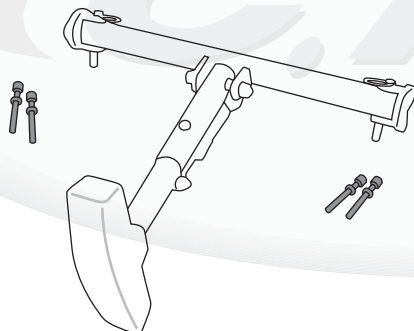


5. Adjust support brace to a comfortable position and reassemble by aiming for the holes then vise versa steps 3~4. (See Fig. 23).
6. Adjust vel-cro to appropriate tightness; and put back backrest pad.

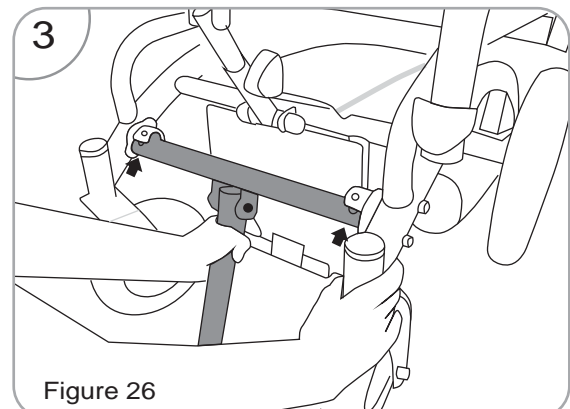
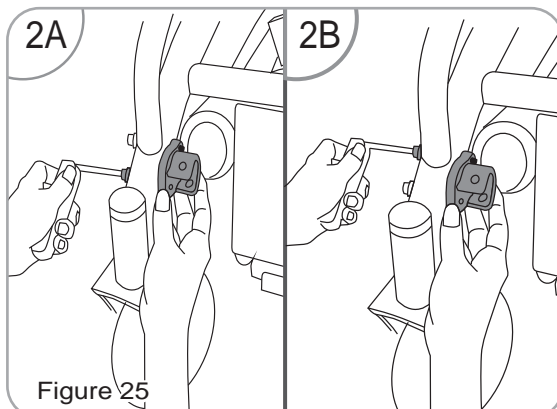


#### Option-Climber Assembly

1. Take off both side's pins from climber comp to disassemble climber holder. (See Fig. 24).

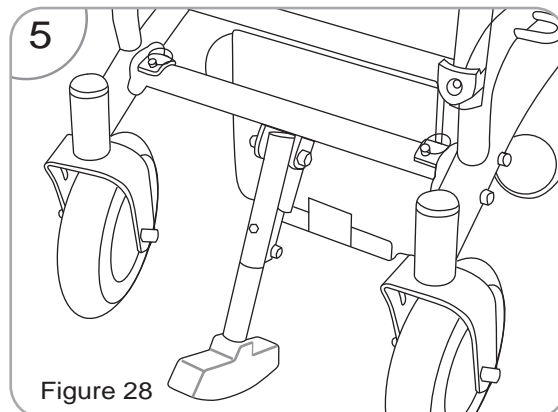
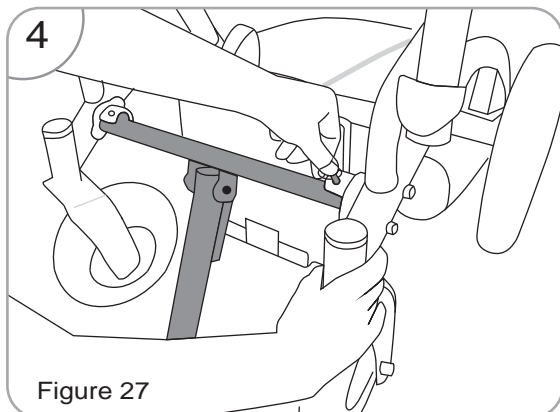


2. Aim climber holder onto the frame and tighten them with two screws. (See Fig. 25).
3. Assemble climber as arrows indicate by aim it to both side's holder. (See Fig. 26).



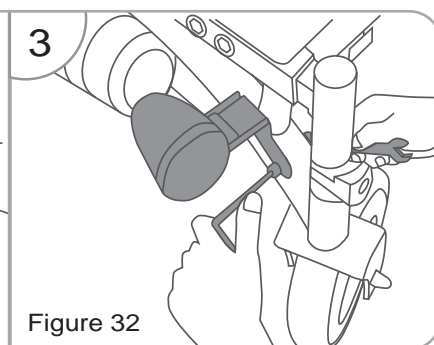
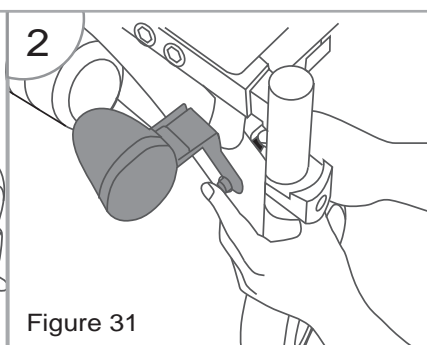
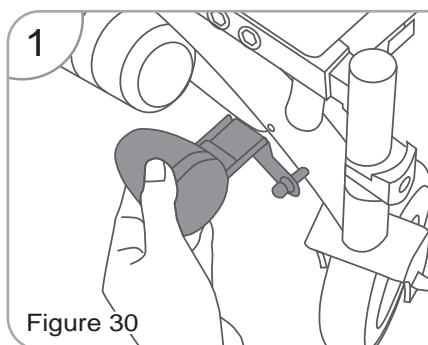
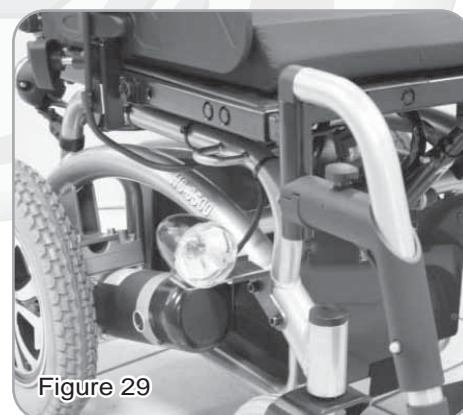


4. According to drawing, aim climber bracket onto climber holder, and insert pins into hole position. (See Fig. 27).
5. Completed. (See Fig. 28).



#### Option-Lighting Assembly

1. Screw must aim at the hole. (See Fig. 30).
2. Tighten two bolts. (no bolts, if with climber). (See Fig. 31).
3. Using tool to tighten screws and bolts. (See Fig. 32).



**Same assembly steps for both sides, by repeat 1~3 steps.**

4. Click rear lights onto frame. (See Fig. 34).
5. Aim and tighten screws and bolts. (See Fig. 35).
6. Using tool to tighten screws and bolts. (See Fig. 36).



**Same assembly steps for both sides, by repeat 1~3 steps.**



Figure 33

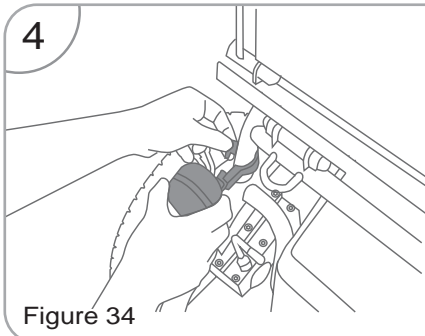


Figure 34

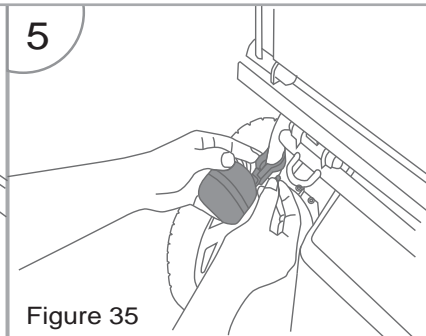


Figure 35

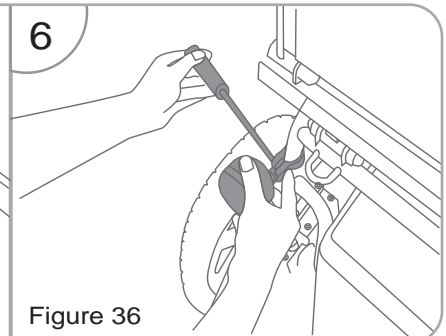


Figure 36

7. Install lighting controller's bracket. (See Fig. 37).
8. By using knob to fix controller's bracket and stick two cable clips to fix lighting controller's cable. (See Fig. 38).
9. Connect right lighting cable A~D onto a~d terminals. (See Fig. 39).
10. Same procedure for left lighting cable E~H onto e~h terminals. (See Fig. 40).

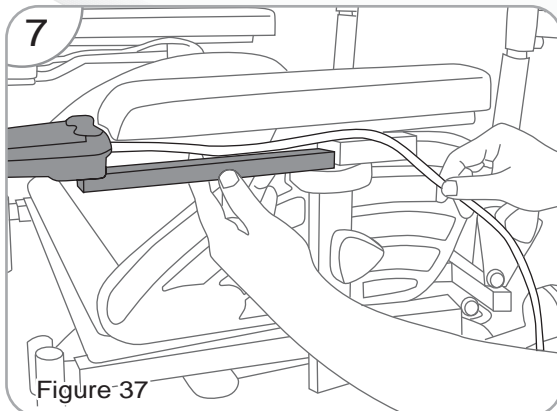


Figure 37

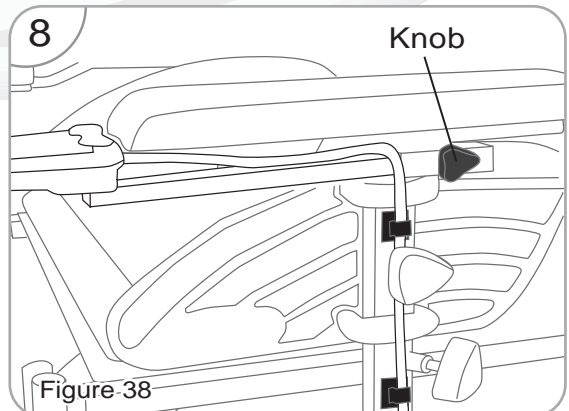


Figure 38

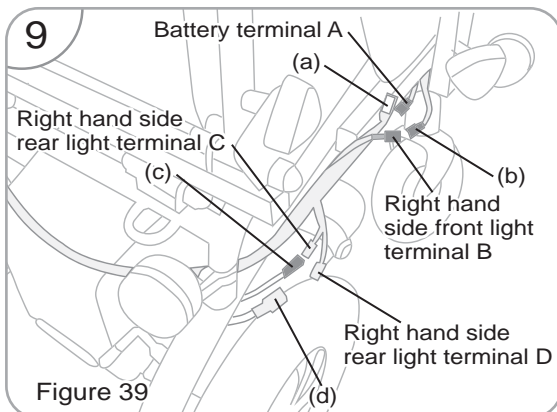


Figure 39

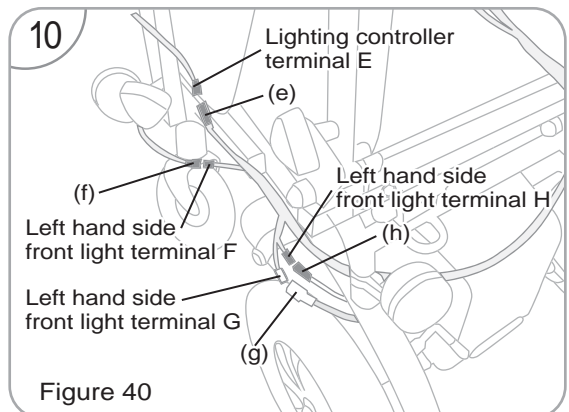
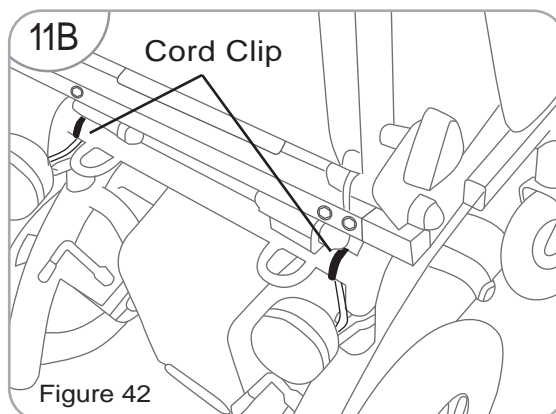
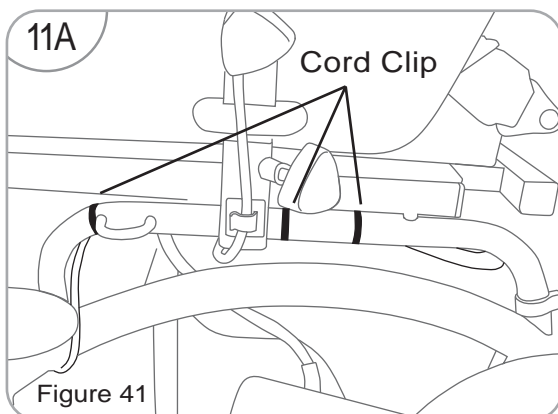


Figure 40

11. Coordinate and fix cables by using 8 cord clips. (See Fig. 41 & 42).



## DISASSEMBLING

### Disassemble Footrest

Press pin (W) downward, then turn footrest (W1) outward and lift up to take off.

### Disassemble Armrest

1. By releasing knob (X),
2. For the armrest with controller, you have to detach controller's wire harness (X1) and clip (X2) first to disassemble armrest.

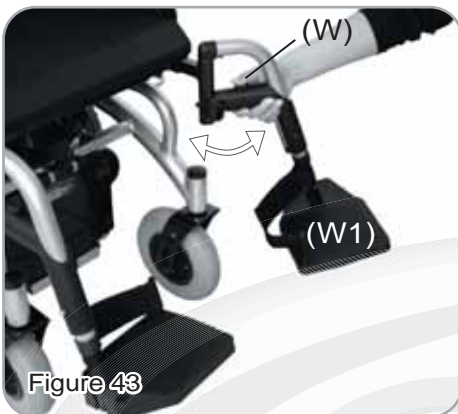


Figure 43

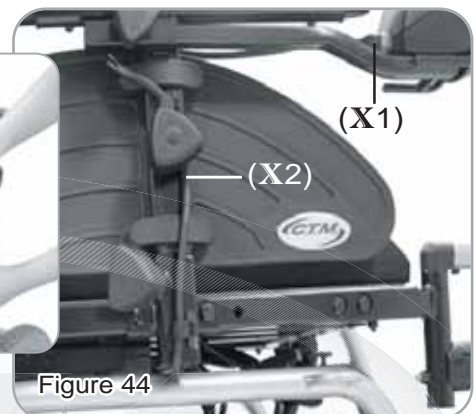
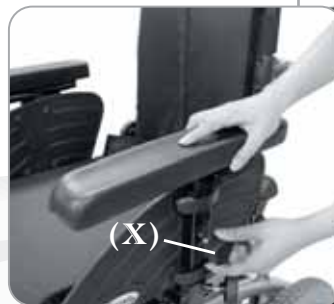


Figure 44

### Disassemble Battery

1. Turn freewheel levers outward to D position, to prevent any movement when disassembling.
2. Pull out the battery cover (Y) as arrow indicates direction.
3. Disconnect both battery connectors, and vel-cro (Z1).
4. Lift two batteries (A1.A2) up carefully.

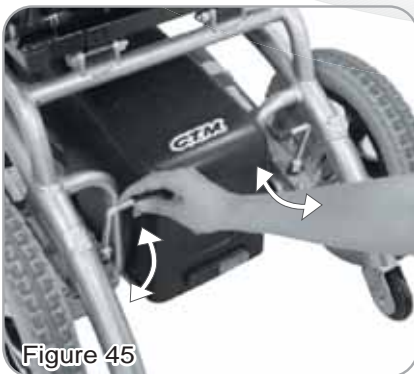


Figure 45

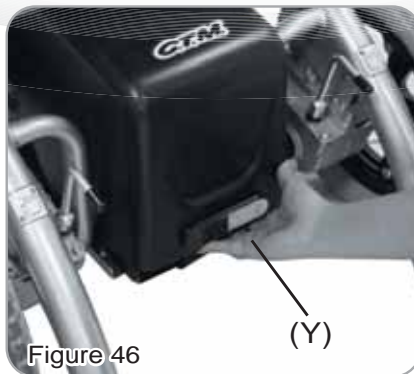


Figure 46

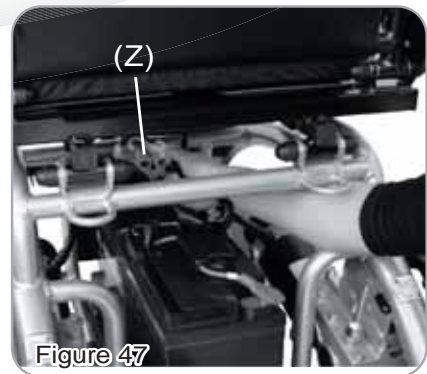


Figure 47

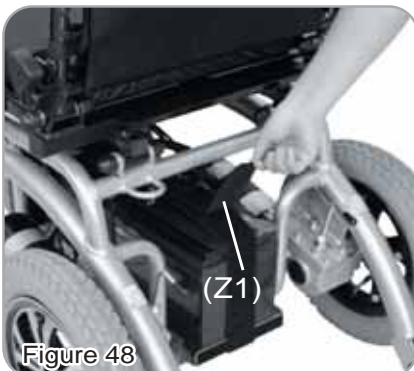


Figure 48

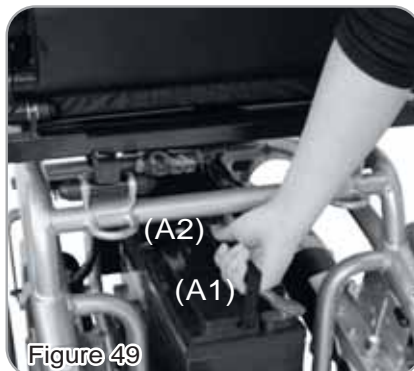


Figure 49



Figure 50





**Batteries are heavy, please be extra careful when removing them**

#### **Fuse Replacement**

1. Disassemble batteries according to steps 1~4.
2. Open fuse box (A3), remove fuse (A4).
3. Replace with backup fuse and close up the box.

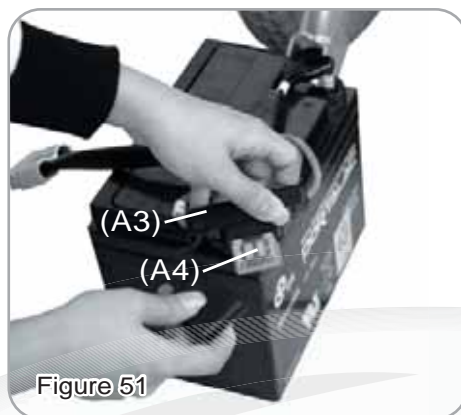


Figure 51



Figure 52



**Replace with same power fuse is required.  
Battery connectors must be disconnected before replacing fuse (Z4).**

## SAFE DRIVING TECHNIQUES

### Driving your Chair

Before sitting on your chair, verify:

1. The chair is switched off.
2. Swing away the armrests and leg rests if appropriate.
3. The battery charger is disconnected from both the chair and the wall outlet.

Once on your chair, make sure that you are comfortably positioned and that the leg rests and armrests have been adjusted to suit your needs. The position of the joystick should be within reach to eliminate hand and arm exhaustion when driving.

### To Begin :

1. Set the speed control of the chair to SLOW.
2. Press the "on / off" switch.
3. Allow two seconds to elapse before engaging the joystick. This is a safety feature to prevent sudden starts.
4. Push the joystick gently forward applying a steady even pressure. The further you push the joystick, the faster the chair will go. The chair will stop when you return the joystick to the neutral or vertical position.
5. Directional control is achieved by gently swivelling the joystick in the direction you wish to go. Pull back to reverse.
6. The controller can be programmed to give you the best feel for all driving situations and only needs a light touch to respond.

**In the case of an emergency, let the joystick go and the chair will come to a stop.**

### Safe Driving

1. Never drive at a speed greater than your ability to safely control your chair. Remember that wet or loose surfaces need greater care and control.
2. Always turn the chair OFF when transferring on or off or while the chair is stationary for long periods.
3. Avoid jerky stop / start motions as this will result in excessive current draw from the batteries, increased tire wear and the rapid wearing of the gearbox and motors.
4. Keep your chair clean from sand and salt water.

### Indoor / Outdoor Driving

When driving indoors keep the speed to a minimum to avoid the risk of collision.

For outdoor driving be cautious of wet surfaces, loose sand, large curbs and potholes. A little practice will ensure you understand the capabilities of your chair and enable you to overcome the most common obstacles encountered when driving.



**Chair Operation on surfaces that require Special Care**

When driving up or down ramps it is recommended that the user:

1. Visually checks to see if the angle of the slope is less than 10 degrees.
2. Checks to see that the ramp surface is roughened to prevent slippage.
3. Ensures that the ramp surface is correctly in line with the tires and is wide enough to allow the tires to pass freely along the ramp.

If the ramp meets these conditions, it is recommended that the user drives the wheelchair slowly up or down the ramp, ensuring that the chair is driven in the centre of the ramp tracks. If possible, have an assistant monitor the chairs' progress, and prevent tipping of the chair by holding the push handles at the back of the seat.

**If the ramp does not meet these conditions, it is recommended that alternative methods for climbing and descending be found.**

**Chair Response**

Should the chairs' response not be to your satisfaction, ask your dealer to adjust the program to a level at which you are comfortable. This program can be altered at anytime to either increase the response rates in line with your improved motor skills or to lower the rates to a level at which you feel comfortable and in control.

**Curbs**

It is recommended that before the user attempts to climb or descend a curb that the user visually checks the height of the curb to ensure that it does not exceed 1" in height.

If the curb height is less than 1", the user should approach the curb at right angles to the curb line at a slow speed, climb or descend the curb slowly so as to keep the chair under control. When climbing the curb, the user may find it easier to reverse the chair up the curb.

If the curb height is greater than 1", it is not recommended that the user climb or descend the curb.

**Steep Slopes**

When the power wheelchair is to be operated up and down steep slopes, it is recommended that the user:

1. Visually checks to see if the angle of the slope is less than 10 degrees.
2. Checks that the slope surface is roughened to prevent slippage.

If the slope meets these conditions, it is recommended that the user approach the slope at a slow speed, keeping the chair under control at all times. It may be preferable to track across the slope so as to decrease the steepness of the descent providing that the surface of the slope is wide enough and suitable to prevent slippage.



**If the slope does not meet these conditions, it is recommended that the user does not climb or descend the slope.**

## BATTERIES AND CHARGING

When your batteries are fully charged you should have sufficient power to give you all the mobility required in a day. It is important that you understand how your batteries and charger work. Batteries must be charged before using the power chair for the first time and are recommended to be charged up to 10 - 14 hours after each day's use.

### Charging the Batteries

1. Batteries should be charged every night in a well ventilated room.
2. DO NOT place the power wheelchair near radiators or open fireplaces while charging.
3. DO NOT smoke or permit open flames in the immediate vicinity.
4. Turn the chair controller power off before charging.
5. It is advisable that the batteries be charged for a minimum of 10 hours per night to ensure full battery storage capacity. The battery charger is an automatic current limiting device and will shut off when the batteries are fully charged.

Charging the batteries :

1. Position HS-6500 power chair next to a standard wall outlet.
2. Connect the battery charger to the wheelchair input battery charging socket, which is located on the front of the controller.
3. Connect the battery charger to a standard wall power outlet.
4. Switch the power on.

During the recharge :

1. While the batteries are being recharged, a red light will appear on the battery charger, indicating that the power is connected and charging is in progress.

At the end of the recharge cycle:

1. A green light will appear on the charger. This indicates that the batteries are fully charged and ready for use.
2. If fitted, the battery charge level indicator on the controller should also show a full charge when switched on.

**When do the batteries need recharging?**

**When the batteries fall below 20% of the maximum charge level, the series of lights on the controller will flash.**



1. Do not use batteries other than the recommended type for your chair and never use a charger other than the one supplied for that purpose.
2. If the chair is not used for a long period of time arrange to have the batteries charged for at least one day (10 hours) every month, minimum.
3. Periodically, check that the battery terminals are clean and the connections are tight. Smear a thin film of petroleum jelly on the terminals to guard against corrosion. Always wash your hands after handling batteries.

## TIRE

You should inspect the tires frequently for damage, the presence of foreign bodies, unusual wear and sufficient tread depth. Tread depth should if possible not be allowed to drop below 1/16". If replacement tires are needed, please contact the nearest C.T.M. dealer.

**Front wheels : 8" air tires.**

**Rear wheels : 13" air tires.**

**Follow these easy steps to replace the tire:**

1. Use an ratchet and socket to remove the drive wheel screw from the centre hub of the wheel. See Fig 28.
2. Pull the wheel off of the axle.
3. Separate the tire from the rim.
4. Remove the old tire and replace it with a new tire.
5. Slide the wheel back onto the shaft.
6. Install the drive wheel nut into the centre hub and verify the key is lined up with axle and wheel. Then tighten to secure it in place.



Figure 53

## MAINTENANCE, AND CLEANING

An electric wheelchair needs some basic attention to ensure it provides reliable service. We recommend that the user ensures that the power wheelchair is checked regularly for maintenance requirements and receives a thorough, annual maintenance check up.

### Annual Maintenance

We recommend that the chair has at least one full service per year from an authorized dealer. This will ensure that your power chair is functioning properly and also helps prevent future complications. This should include:

1. Checking the tires.
2. Checking the batteries and terminals.
3. Checking the controller program for the user's needs.
4. Checking the frame.
5. Checking the upholstery condition.

### Regular Maintenance and Cleaning

1. Avoid knocking or bumping the controller, especially the joystick.
2. Avoid prolonged exposure of your power chair to extreme conditions, such as heat, cold, or moisture.
3. Keep the controller clean.
4. Check that all controller connectors are tight and secured properly.
5. Never hose off your power chair or place it in direct contact with water.
6. Keep the upholstery and frame clean by wiping with a soft cloth, particularly after driving through wet, sandy or muddy conditions. Do not use harsh abrasive materials when cleaning. Do not apply liquid cleaners or solvents directly to the control box, battery charger or any electrical connections.
7. Keep wheels free from lint, hair, sand and carpet fibres.
8. Lightly oil axle pin, wheel axles and bearings once every three months, if necessary.
9. Inspect the tires. Tread depth should not be allowed to drop below 1/16".
10. Use only recommended batteries and have batteries changed by Qualified Dealer if you have doubts about your ability to lift the components.
11. Charge batteries regularly. Make sure the charger lead plugs are engaged properly in the sockets. Do not disconnect by pulling the cord.
12. With the controller turned off, check the joystick. Make sure it is not bent or damaged and that it returns to the center when you release it. Check the rubber boot around the base of the joystick for damage. Visually inspect the boot. Do not handle or try to repair it. See your authorized dealer for any questions.
13. Visually inspect the controller harnesses. Make sure that they are not frayed, cut or have any wires exposed. See your authorized dealer if there is a problem with any of these harnesses.
14. Ensure that all parts of the controller system are securely fastened to your HS-6200. Do not over tighten any screws.

## TROUBLESHOOTING

Here are some suggestions about solving problems you may have with your power chair. There are 10 LED Self-Diagnostic Warning Lights on the Control Panel. To check the Self-Diagnostic Warning Lights, turn the power chair on and count the number of flashes.

Number of Flashes	Solution
1 bars	The battery needs charging or there is a bad connection to the battery. Check the connections to the battery. If the connections are good, try charging the battery.
2 bars	The left hand motor* has a bad connection. Check the connections to the left hand motor.
3 bars	The left hand motor* has a short circuit to a battery connection. Contact your service agent.
4 bars	The right hand motor* has a bad connection. Check the connections to the right hand motor.
5 bars	The right hand motor* has a short circuit to a battery connection. Contact your service agent.
6 bars	The wheelchair is being prevented from driving by an external signal. The exact cause will depend on the type of wheelchair you have, one possibility is the battery charger is connected.
7 bars	A joystick fault is indicated. Make sure that the joystick is in the center position before switching on the control system.
8 bars	A control system fault is indicated. Make sure that all connections are secure.
9 bars	The parking brakes have a bad connection. Check the parking brake and motor connections. Make sure the control system connections are secure.
10 bars	An excessive voltage has been applied to the control system. this is usually caused by a poor battery connection. Check the battery connections.

If the programmable parameter, Motor Swap, has been changed then left and right hand references in this table will need transposing.

**Other Problems :**

Power chair will not move when the power is turned on:

1. Check the Battery Level Indicator on the joystick. All the LED lights should be on.
2. Check the Self-Diagnostic Warning Light. It should be steady. If it is flashing, see the chart on page 20 for the problem identification.
3. Check all electrical connections to be sure they are tight.
4. Verify the batteries are connected correctly. Refer to "Disassemble Batteries" on page 12 and vice versa the steps.
5. If none of these suggestions correct the problem, contact your authorized dealer.

If charging your power chair over 14 hours and the light on the charger does not change to green, then contact your authorized dealer.

Please note that your power chair is equipped with a controller that constantly checks the drive system for a safe and enjoyable ride. If an error occurs, the Battery Level Indicator will provide you an indication of the problem by way of flashing lights.

We thank you again for choosing C.T.M. for your power chair. C.T.M. offers exceptional, uncompromised quality, for better mobility.

**"When you compare, the decision will be obvious: C.T.M."**



## SPECIFICATION

Overall Length	1040 mm / 41"
Overall Width	580 mm / 23"
Overall Height	920 mm / 36"
Wheels: Front	200 mm / 8"
Wheels: Middle	N/A
Wheels: Rear	320 mm / 13"
Weight w/ Batteries	74 kg / 163 lbs
Max. Speed	8 kmph / 5 mph
Weight Capacity	136 kg / 300 lbs
Ground Clearance	100 mm / 4"
Grade Climable	8 degree
Curb Climbing	30 mm / 1"
Turning Radius	920 mm / 36"
Brake	Electro-Mechanical
Seat Width	360, 407 ~ 510 mm / 14", 16" ~ 20"
Seat Depth	410 ~ 460 mm / 16" ~ 18"
Armrest Height	210 ~ 255 mm / 8 1/4" ~ 10"
Seat Back Angle	98 degree or 108 degree or 118 degree
Seat Back Height	410 ~ 510 mm / 16" ~ 20"
Drive Train	2-Motor Rear-Wheel Drive
Battery Weight	24 kg / 52 lbs
Motor Size	420W 4600 r.p.m
Travel Range	16 km / 10 Miles
Battery	(2) 12V. 36Ah (50Ah Option)
Charger	5A Off Board
Electronics	Dynamic 50A
Seat Type	Padded, Breathable Ballistic Nylon Back Rest

\*Subject to change without notice. (Issue A)